

Ship Shoal: Whiskey Pass Closure and West Flank Restoration (TE 14-1c)

Coast 2050 Strategy – Regional #14 Restore and maintain the Isles Dernieres island chain

Project Location - Region 3, Terrebonne Basin, Terrebonne Parish, south of Pelto Marshes. Whiskey Pass separates Whiskey from Trinity Island. West Flank will extend the island west.

Problem – Isle Dernieres, considered one of the most rapidly deteriorating shorelines in the US, is losing structural framework functions for the coastal/estuarine ecosystem including storm buffering capacity and protection for bays and wetlands, human populations, and infrastructure. Chain breakup results from major storms and loss of nourishing sediment from the natural system due to human alterations. Whiskey Pass now functions as a sink, draining sediment from the lateral transport system. Whiskey Island lost 31 acres per year from 1978 to 1988.

Goals: 1) Add new offshore prime quality sediment to the west flank of Whiskey Island and close Whiskey Pass. 2) Develop a 16-mile continuous island made up of East Island, New Cut closure, Trinity Island, Whiskey Pass closure, and Whiskey Island to provide a protective barrier for back bays and inland marshes to reduce wave and tidal energies and reduce mainland marsh shoreline loss. 3) Initially create and restore 753 acres of island habitat.

Proposed Solution – Mine and place Ship Shoal sand by cutterhead or hopper dredge to close Whiskey Pass to subaerial elevations and to rebuild the west flank of Whiskey Island. The closure of the Pass over a length of 14,784 feet includes construction of 52 acres dunes 7 ft high and 150 ft wide, 102 acres supratidal habitat at 4 ft elevation, 187 acres intertidal habitat at 2 ft elevation, and 25 acres subtidal habitat from 0 to -1.5 ft elevation. Whiskey West Flank restoration involves 379 acres of similar construction. Restored areas would be planted with island vegetation and sand fencing placed to trap wind-blown sediment. Minerals Management Services has designated Block 88 of the Ship Shoal, for use on Isles Dernieres, to be transported a distance of approximately 10 miles to Whiskey Pass and 8 miles to the West Flank.

Project Benefits – Prevent loss of sediment from the system into deeper Gulf or bay waters. Wave heights in back bays would be reduced, resulting in slight reduction of inland marsh loss. The project would benefit a total of 1,626 acres of island and shallow water. After 20 years, there a net of 526 acres of island over the without project condition. Another benefit would be the addition of offshore sand into the sediment transport system of coastal Louisiana.

Project Costs – Fully funded first cost is \$207,963,000; total fully funded cost is \$208,276,700.

Risk/Uncertainty and Longevity/Sustainability There is a moderate degree of risk associated with this project due to greater storm effects in this area of the coast and difficulty in engineering and construction. Benefits should continue for more than 20 years due to the high quality and compatibility of Ship Shoal sand.

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